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40158	7590	10/28/2005	EXAMINER	
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DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/911,434	BUSHEE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael R. Gayeski	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 12 September 2005.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-54 is/are pending in the application.  
4a) Of the above claim(s) 46-54 is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-45 is/are rejected.

7)  Claim(s) 24 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 10/17/2001 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.  
\_\_\_\_\_

## **DETAILED ACTION**

1. Claims 1-54 are pending in the instant application.

### ***Election/Restrictions***

2. Claims 46-54 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12 September 2005.

### ***Specification***

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because of the use of "means", see lines 9 and 11, for example. Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities: The "Incorporation by Reference" section should be updated to include current filing dates and application and/or patent numbers of the relevant related documents.

Appropriate correction is required.

#### *Claim Objections*

5. Claim 24 is objected to because of the following informalities: It appears that the word 'a' is missing between the words 'retaining' and 'uniform' on line 3 of the claim. Appropriate correction is required.

#### *Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-12, 19-22, 24, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Wittgreffe et al. (U.S. Patent 6,253,208) (hereinafter referred to as Wittgreffe).

8. As per **claim 1**, Wittgreffe teaches:

A computer system having a storage means for facilitating the retention and recall of dynamic database content [**Column 2, lines 29 and 49-50**], said computer system having a communications means for performing bi-directional communications between said computer system and a network [**Column 2, lines 34-37**];

An executory module interfaced to said computer system, said executory module controlling said storage means of said computer system and said computer system [**Column 4, lines 51-63: The operating system of the system and the program code of the system inherently control the computer**], said executory module directing said system to a plurality of pre-selected network sites [**Column 5, line 64 – Column 6, line 4**];

A capture module being in communication with said executory module, said capture module facilitating selection of said plurality of network sites associated with a query submitted by a user of said system [**Figure 1, items 105 and 145; and Column 6, lines 22-43**].

9. As per **claim 2**, Wittgreffe also teaches:

A query input means for receiving the query from a user and transferring said query to said capture module [**Column 6, lines 22-43**].

10. As per **claim 3**, the query input means (user interface) cited above anticipates this limitation, as a user can use a UI more than once, thus inputting a plurality of queries. Thus, claim 3 is rejected.

11. As per **claim 4**, Wittgreffe also teaches a text editor (**Column 6, lines 29 and 30**), which, as defined in the art, converts user input to an electronic machine-readable form. Thus, claim 4 is rejected.

12. As per **claim 5**, Wittgreffe also teaches:

A database search listing for providing said capture module with a listing of a plurality of pre-selected databases to use for a submission of a query [**Figure 1, item 120; and Column 6, line 44 – Column 7, line 8**].

13. As per **claim 6**, Wittgreffe also teaches:

Said database search listing further comprises at least one information field containing information for formatting queries submitted to each one of said plurality of pre-selected databases [**Column 6, lines 60-64**].

14. As per **claim 7**, it is a broader version of claim 6, and is rejected for similar reasons.

15. As per **claim 8**, Wittgreffe also teaches:

Said executory module further comprises a network connectivity portion for establishing and maintaining bi-directional connectivity between said computer system

and the network for facilitating the transmittal of at least one query to at least one site on said network [Figure 1, item 105; and Column 8, lines 31-49].

16. As per **claim 9**, it recites the same functional limitations as claim 8, and is rejected for similar reasons.

17. As per **claim 10**, Wittgreffe also teaches that the connection means uses a plurality of sockets to maintain bi-directional connectivity with the network [See figure 1, item 105].

18. As per **claim 11**, it presents no limitations above those of claims 1, 3, 5, 6, 8, and 10, and is rejected for similar reasons.

19. As per **claim 12**, Wittgreffe also teaches:

A query queue for storing queries from said query input means until said queries are transferred to said executory module [Figure 1, item 120; and Column 8, lines 25-49].

20. As per **claim 19**, Wittgreffe also teaches:

A document storage and retrieval portion for retaining documents returned in reply to an associated one of said plurality of databases [Figure 1, item 125; and Column 8, lines 40-49: The retrieved document is stored in a cache];

21. As per **claim 20**, Wittgreffe also teaches:

A document storage module for retaining each one of a plurality of documents as part of an indexed array for facilitating rapid retrieval of a document by the user **[Figure 1, item 135; and Column 11, lines 6-10]**

22. As per **claim 21**, Wittgreffe also teaches:

Said document storage module stores each one of said plurality of documents as a binary string of data **[Computer systems inherently store all data as 'binary strings']**, said plurality of documents stored in a single file **[Column 7, lines 20-58: All entries are stored in the site database file]**, each one of said documents being separately accessible **[It is an inherent feature of databases that each row is separately selectable (e.g. SELECT \* FROM tableName LIMIT 1,1)]**.

23. As per **claim 22**, Wittgreffe also teaches:

An index portion for facilitating rapid recall of any one of said plurality of documents of any one of said plurality of documents from a document storage module **[Column 12, line 14]**.

24. As per **claim 24**, Wittgreffe also teaches:

A uniform resource locator module for retaining a uniform resource locator associated with each one of said plurality of documents returned by each one of said

plurality of documents returned by each one of said plurality of databases **[Column 10, lines 7-15]**.

25. As per **claim 26**, Wittgreffe also teaches:

A record related information portion containing parametric information associated with each one of said plurality of documents associated with each one of said plurality of documents... **[Column 9, lines 39-47]**.

***Claim Rejections - 35 USC § 103***

26. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wittgreffe in view of Java Network Programming, by Elliotte Rusty Harold (hereinafter referred to as Harold).

27. As per **claim 13**, as discussed above with regard to claim 12, Wittgreffe teaches the substantive limitations of the claim, but is silent on specific implementation details, namely executing a query as a thread. However, both the technique and the benefits of threaded network applications are old and well known to those of ordinary skill in the art. For example, Harold, in analogous art, teaches the use of threads to minimize the cost of new connections **[Page 118, paragraph 1; and paragraph 3, “The second solution...”]**. Combining the inventions by making the Query Preparation Module of Wittgreffe threaded would yield the invention as claimed. It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to combine the inventions in such a way, with the motivation of providing parallel execution paths for

network I/O, thus greatly improving the performance of the system [See Harold, page 118, paragraph 3]. Thus, claim 13 is rejected.

28. As per **claims 14 and 15**, they are again directed towards specific implementation details that are old and well-known in the art. The language describes a technique referred to as *thread pooling*, commonly used within the art to accelerate multi-threaded applications. Wittgreffe-Harold also teaches this technique:

A thread manager for the creation, management, and termination of a plurality of threads [See Harold: Examples 5-15 and 5-16 on pages 161-163: See, specifically the **run()** method on page 161 and the **pool** Vector on page 162].

29. Further modifying the system of Wittgreffe to perform all query I/O within a thread and managing said thread in the manner disclosed by Harold would yield the additional limitations of the claim. It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to perform such a combination, since Harold teaches that thread pools dramatically improve performance for network application, and pooling them further improves the performance by reducing the overhead associated with creating and destroying threads [See Harold: Page 159, 1<sup>st</sup> paragraph beneath "Thread Pools" heading: "Adding multiple threads..."]. Thus, claims 14 and 15 are rejected (this combination will hereinafter be referred to as Wittgreffe-Harold).

30. As per **claim 16**, Wittgreffe-Harold is silent on the termination of a socket when one of the databases has completed responses. However, both the technique and the benefits of closing a socket after communications is notoriously old and well known to those of ordinary skill in the art. For example, Harold, in a different chapter of the same book, teaches both the technique and the benefits of closing a socket [**See Harold Page 322**]. As such, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to close the database socket after communications were finished, with the motivation of not hitting the maximum number of sockets available to the system [**See Page 322, paragraph 3: "Until now, our examples..."**].

Thus, claim 16 is rejected.

31. As per **claim 17**, Wittgreffe-Harold also teaches:

A simultaneous thread count parameter, said simultaneous thread count parameter being used by said thread manager to set an upper bound for a number of simultaneously coexisting threads forming a plurality of threads [**See Harold: Example 5-16 on page 162: the THREAD\_COUNT variable**];

A thread creation and termination portion... [**See Harold: Example 5-16 on pages 162 and 163: threads[i].start() and threads[i].interrupt()**];

A plurality of monitoring portions... [**See Harold: Example 5-15 on pages 161 and 162: The threads monitor a pool of work to be done (while (filesCompressed != ...))**];

Said thread creation and termination and creation portion terminating one of said plurality of threads when said termination point is reached **[See Harold: Example 5-15 on pages 161 and 162: The run() method terminates upon job completion].**

32. The combination of teachings as discussed above with regard to claims 15 and 16 would yield the further limitations of the claim. Thus, claim 17 is rejected.

33. As per **claim 18**, the previously discussed combinations of Wittgreffe-Harold are silent on a timeout portion for terminating communications. However, this feature is also old and well known with the art. For example, Harold, in the same socket chapter discussed above with regard to claim 16, teaches the use of a timeout variable to close a connection **[See Harold: Page 327 under heading SO\_TIMEOUT].** It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to include a timeout feature, to ensure that the thread I/O (**query**) will not block indefinitely **[See Harold: Page 327 under heading SO\_TIMEOUT: "Normally..."].** Thus, claim 18 is rejected.

### ***Claim Rejections - 35 USC § 103***

34. Claims 25 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wittgreffe in view of The Hypertext Transfer Protocol version 1.1 (hereinafter referred to as HTTP/1.1).

35. As per **claim 25**, Wittgreffe teaches the substantial limitations of the base claims, but is silent on retaining an entity tag associated with each one of said plurality of

documents returned by each one of said plurality of servers. However, Wittgreffe does teaches that the documents returned are stored in a cache [Column 8, lines 43-49]. It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to include an entity tag holder, as the HTTP/1.1 specification teaches that entity tags allow for more reliable cache validation [See HTTP/1.1, section 13.3.2].

Thus, claim 25 is rejected.

36. As per **claim 38**, Wittgreffe teaches the substantial limitations of the base claims, but is silent on the inclusion of a *redirected URL handler portion for following redirection of an URL through a plurality of redirections to an ultimate destination...* However, the HTTP/1.1 protocol teaches including a URL redirection handler [See Page 40, Section 10.3].

37. It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to make the HTTP client of Wittgreffe compatible with the HTTP/1.1 redirection protocol, with the motivation of allowing the client to find a page that has been moved. Thus, claim 38 is rejected.

#### ***Claim Rejections - 35 USC § 103***

38. Claims 23 and 27-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wittgreffe.

39. As per **claim 23**, Wittgreffe teaches the substantive limitations of the claims, including:

A plurality of core version uniform resource locators, each core version URL providing a path back to a source document from an associated one of the databases queried allowing reconnection to the database which provided the source document [Column 12, lines 24 and 25; and Column 11, lines 48-58].

40. Wittgreffe is silent, however, on a B-Tree (**Binary Tree**) as an indexing structure. However, this limitation is unpatentable over Wittgreffe, since the Examiner takes Official Notice that both the technique and the benefits of using a B-tree, namely providing an average search time of  $O(\log n)$  and a worst-case search time of  $O(n \log n)$ , are notoriously old and well known within the art. As such, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to index the identifier of Wittgreffe using a binary tree, with the motivation of increasing the performance of the application. Thus, claim 23 is rejected.

41. As per **claim 27**, it recites a number data fields (**database columns**) entries associated with functionality that has been discussed above with regard to previous claims. Wittgreffe teaches the substantial limitations of the claim, but he does not specially enumerate where the data related to the functionality of his system is stored. However, the limitations presented in claim 17 are unpatentable over Wittgreffe, since the Examiner takes Official Notice that both the technique and benefits of storing data in related database columns, namely providing increased speed and reduced application development time, are notoriously old and well known within the art. As such, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's

invention to store data in related database columns in order to make maintenance of the system easier. Thus, claim 27 is rejected.

42. As per **claims 28 and 29**, Wittgreffe teaches the substantial limitations of the claims, but again, is silent on specific implementation details. However, these limitations are unpatentable over Wittgreffe, since the Examiner takes Official Notice that storing segments in an array, using either a 32 or 64 bit representation, and using a 1 to 1 relation for corresponding columns is notoriously old and well known within the art. Specifically, the Examiner is referring to several implementations of a relational database, commonly used to store data. As such, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to choose to use a database in the system of Wittgreffe, with the motivation of effectively storing and accessing the saved documents and data. Thus, claims 28 and 29 are rejected.

43. As per **claim 30**, Wittgreffe is silent on the inclusion of a version control portion. However, the Examiner takes Official Notice that both the technique and the benefits of including a version identifier are notoriously old and well known within the art. As such, It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to include a version identifier, with the motivation of allowing an end-user to determine the version of the software, without requiring the end-user to look at the underlying code. Thus, claim 30 is rejected.

44. As per **claims 31-33**, they present no limitations above those of claims 20-30, and are rejected for similar reasons.

***Claim Rejections - 35 USC § 103***

45. Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wittgreffe in view of Pant et al. (U.S. Patent 6,012,053) (hereinafter referred to as Pant).

46. As per **claims 44 and 45**, Wittgreffe teaches the substantive limitations of the base claim, but is silent on scoring documents based on document results and providing a numeric representation of relevance. However, Pant, in analogous art, teaches scoring a search result and displaying the relevance of a document to a user [See **Abstract, Figure 7, item 336**].

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to provide the search engine of Wittgreffe with a relevancy ranking feature, with the motivation of allowing a user to view the best search results when the results are too numerous to be reviewed manually [See **Column 1, lines 32-49; and Column 13, lines 26-31**]. Thus, claims 44 and 45 are rejected.

***Claim Rejections - 35 USC § 103***

47. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wittgreffe in view of Harold.

48. As per **claim 34**, it presents no limitations not already addressed in the base claims, and in claims 12, 14, 15, 16, 17, and 18.

***Claim Rejections - 35 USC § 103***

49. Claims 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wittgreffe in view of Harold as applied to claims 12, 14, 15, 17, 18, and 34 above, and further in view of the HTTP/1.1 protocol.

50. As per **claims 35-37**, they are rejected for similar reasons as presented above with regard to claim 38.

***Claim Rejections - 35 USC § 103***

51. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wittgreffe in view of Harold as applied to claims 12, 14, 15, 17, 18, and 34 above, and further in view of Rosenzweig (U.S. Patent 6,526,479) (hereinafter referred to as Rosenzweig).

52. As per **claim 39**, Wittgreffe-Harold teaches the substantive limitations of base claim 34, but is silent on the inclusion of a *document aging portion for determining if a current version of a document is available from said document storage and retrieval portion or if the must be retrieved from another source through said network connectivity portion*. However, this limitation is read on by a number of old and well known cache replacement strategies used within the art. For example, Rosenzweig, in analogous art,

teaches tracking the age of a document, and, if the cached document is too old, fetching the document from the server **[See Rosenzweig: Column 8, lines 6-15]**.

53. It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to provide the system of Wittgreffe-Harold with a document aging cache scheme, with the motivation of increasing system response time and decreasing network traffic **[See Rosenzweig: Column 12, lines 3-16]**. Thus, claim 39 is rejected.

54. As per **claim 40**, Wittgreffe-Harold-Rosenzweig also teaches:

An aging parameter for selecting a predetermined maximum age for a document to be considered current **[See Rosenzweig: Figure 7, item 750: The pre-determined time period]**;

An age module for determining when the document was retrieved from a source and if said age parameter has been exceeded **[Figure 7, item 750]**;

A modification module adapted for interrogating a server about any changes made to the document since the document was previously retrieved **[Figure 7, item 760]**;

#### ***Claim Rejections - 35 USC § 103***

55. Claims 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wittgreffe in view of Harold as applied to claims 12, 14, 15, 17, 18, and 34 above, and further in view of Rosenzweig as applied to claims 39 and 40 above, and further in view of the HTTP/1.1 protocol.

56. As per **claim 41**, Wittgreffe-Harold-Rosenzweig teach the substantive limitations of the base claims, but is silent on the use of an *entity tag to determine if the document has been modified, said modification module also using a last-modified-since tag is the server does not support use of the entity tag*. However, the HTTP/1.1 teaches both of these features used in caches [**See HTTP/1.1: Page 54, Section 13.3.1, 13.3.2**].

57. It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to use a entity tag to determine if the document has been modified, or using a last-modified tag if the server does not support entity tags, with the motivation of providing more reliable cache validation [**See HTTP/1.1: Page 54, section 13.3.2: "This might allow for more reliable..."**]. Thus, claim 41 is rejected.

58. As per **claim 42**, it is rejected for similar reasons as claims 40 and 41.

#### ***Claim Rejections - 35 USC § 103***

59. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wittgreffe in view of Harold as applied to claims 12, 14, 15, 17, 18, and 34 above, and further in view of Rosenzweig as applied to claims 39 and 40 above, and further in view of the HTTP/1.1 protocol as applied to claims 41 and 42 above, and further in view of Pant.

60. As per **claim 44**, it is rejected for similar reasons as presented above with regard to claim 45.

**Conclusion**

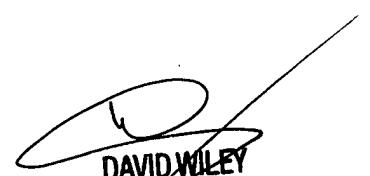
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael R. Gayeski whose telephone number is 571-272-0978. The examiner can normally be reached on M-F: 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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